

**The Technology and Economics
Of Cross-Platform Competition
In Local Telecommunications Markets**

**Richard A. Chandler
A. Daniel Kelley
David M. Nugent**

**HAI Consulting, Inc.
1355 S. Boulder Rd. #184
Louisville, Colorado 80027**

April 4, 2002

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The Technology and Economics of Cross-Platform Competition in Local Telecommunications Markets

I. Introduction and Executive Summary

The Telecommunications Act of 1996¹ contains a complex blueprint for building a new competitive infrastructure.¹ The foundation for this new infrastructure is local competition for both narrowband and broadband services. The architects of the 1996 Act recognized that Incumbent Local Exchange Carrier ("ILEC") entry into long distance markets and other forms of deregulation would be justified only if the ILECs' monopoly local markets were opened to competition. While it is far too early to throw out this competitive blueprint, it is obvious that the high expectations at the time the Act passed have not yet been met. As measured by the degree of local competition, it is apparent that the local markets have not been opened.

The potential availability of alternative broadband platforms does not change this conclusion. The broadband market is itself highly concentrated, with many customers dependent on the ILECs. Few customers have more than two realistic alternatives. Moreover, because voice over broadband is not yet a commercial reality, even when a broadband alternative to the ILEC is available, this does not create any new competition for voice service.

¹ Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 151 *et seq.* (1996) ("1996 Act" or "Act").

To advance the goal of competitive local markets, the Act created several mechanisms designed to create an environment where local competition could develop. One the most fundamental of those mechanisms is the requirement that incumbent monopoly local exchange carriers unbundle their networks in order to allow nascent competitors access to the incumbents' inherent economies of density, connectivity and scale.²

Now, six years after the passage of the Act, the Federal Communications Commission ("FCC" or "Commission") is conducting a review of the way in which competition has developed in order to determine whether or how the procompetitive unbundling measures of the Act should be modified.³ The ILECs, of course, argue that competition is already robust. They believe they should be permitted to enter more long distance markets, to have additional services deregulated and to be freed from the basic requirements of the Act, including the fundamental requirement that they unbundle elements of their local networks for use by competitors to provide narrowband and broadband services.

The ILECs are wrong, and their position is increasingly difficult to sustain in the face of mounting evidence. As this Report shows, local exchange markets are not competitive. At the end of 2001, competitors who owned facilities that connect to end-user consumers controlled only about three percent of lines, and

² 47 U.S.C. 251(c)(3). See also, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd. 15499 (1996) ("*Local Competition Order*"), para. 11.

³ *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, Notice of Proposed Rulemaking, Released December 20, 2001 ("*NPRM*").

many of those competitors are facing a daunting economic future. Numerous competitive firms failed in 2001. Many of the remaining firms are in financial distress and are scaling back their expansion plans as a result.

This is a critical time for the future of a competitive local exchange market. If the requirement to unbundle the ILEC local exchange network is eliminated or scaled back at this time, before the foundation for local competition has been laid, before viable local competition has developed, the result will be the total collapse of the Act's plans for a competitive local exchange infrastructure.

Some analysts argue that "cross-platform" competition from cable television companies, wireless providers and fiber ring providers has brought competition to local markets. But the facts are otherwise. Six years after passage of the Act only a small number of residences and businesses actually have a local telephone option through their cable provider. Wireless service has not and cannot displace wireline telephone service to any significant extent, and competitive local exchange carrier ("CLEC") fiber rings do not and cannot provide a cost-effective means for reaching customers in any but the most densely populated areas. The vast majority of business customers, who are not served by CLEC fiber, have no alternative for broadband service. Residential customers have extremely limited choices, and in many cases, no choice of a broadband supplier. This outcome is obviously not competitive.

The argument that "cross-platform" competition has brought, or soon will bring, effective competition to local markets is not new. Hatfield Associates, Inc. the predecessor of HAI Consulting, Inc. ("HAI") has undertaken studies of cross-

platform competition on two prior occasions. In "The Enduring Local Bottleneck," completed in 1994, Economics and Technology Inc. and HAI concluded that, contrary to incumbent ILEC claims at the time, local competition was far from a reality, and the technologies available to provide it were not ready for mass deployment.⁴ In 1997 "Enduring Local Bottleneck II" focused on the consumer and small business market and found that the business case for cable and wireless alternatives for mass market voice service was not sufficiently robust to justify ILEC claims about the immediacy of local competition.⁵ The passage of time has demonstrated that the bottleneck may have cracked, but it has not broken. The ELB assessments were correct. ILEC claims about the extent of competition and the viability of alternative platforms for voice services were simply wrong.

Broadband services and the Internet have undergone extensive development since the ELB Reports were completed. That fact does not change the basic industry dynamics. Large business customers rely on dedicated circuits provided by ILECs, except in the densest geographical locations where CLECs offer service over their own fiber rings. Even in these areas, many business customers are in buildings that cannot be economically served by CLECs. Many broadband customers must rely on ILEC digital subscriber line ("DSL") services because they do not yet have access to cable modems. Even where both cable modems and DSL are available, customer choice is extremely

⁴ Economics and Technology, Inc. and Hatfield Associates, Inc., "The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers," 1994 ("ELB I").

⁵ Hatfield Associates, Inc., "The Enduring Local Bottleneck II," 1997 ("ELB II").

Local Competition Rhetoric Versus Reality

Literally since their birth in 1984, the BOCs have been claiming that local competition is "just around the corner." Their assessments and predictions have been consistently wrong. Hatfield Associate/HAI Consulting predictions about the development of local competition, which have relied on detailed financial and technical analysis rather than massive searches for quotes from journalists or less than disinterested businessmen, have been accurate. With proper application of public policy, the BOC predictions will someday come true. But that day is not "just around the corner."

Hatfield Associates/HAI Consulting Predictions have been correct:

"Competition is likely to increase for some significant *components* of local telecommunications service over the next five to ten years under appropriate regulatory and market conditions. However, the level and scope of competitive entry is unlikely to be sufficient to eliminate or even significantly reduce the power of the BOCs. Additional time is required for effective and *sustainable* local competition to emerge."

Economics and Technology, Inc. and Hatfield Associates, Inc., "The Enduring Local Bottleneck," 1994, p. iii.

"As in the original Enduring local Bottleneck ('ELB I') released in 1994, the findings are that competitive technologies are technologically viable. However, profitability is far in the future and internal rates of return are relatively low, except in the most optimistic cases. As a result, competition is likely to develop slowly, beginning with the more attractive markets. Residential competition may never become ubiquitous. The conclusion is that regulators cannot assume that widespread facilities competition is likely in the near term."

Hatfield Associates, Inc., "The Enduring Local Bottleneck II," 1997, p. ii.

The ILEC track record on predicting local competition is abysmally poor:

"Local exchange competition, only recently considered to be economically impossible, is now both imminent and inevitable."

Peter W. Huber, Michael K. Kellog, and John Thorne, "The Geodesic Network II: 1993 Report on Competition in the Telephone Industry," p. 2.1, quoting George C. Calhoun, Wireless Access and the Local Telephone Network (1992).

"No one can seriously doubt the financial viability of CAPS [CLECs]," p. 21.

"If cable companies in the United States experienced comparable growth of cable telephone service [in the UK], it would soon have some 45 percent of the U.S. local exchange telephone market" p. 25

... U.S. cable-telco alliances are now preparing to invade each others' regions." p. 26.

... cellular architecture is inherently expandable, like an accordion. The capacity of all cellular systems, including PCS, can be increased almost indefinitely by deploying additional cells and thereby reusing already-allocated spectrum." p. 34

"The Enduring Myth of the Local Bottleneck," 1994, (unsigned, but widely attributed to Peter W. Huber).

limited because the competitive significance of satellite and fixed wireless services is limited. The high prices of cable and DSL services force many customers who would otherwise be interested in broadband to continue to rely on ILEC dial-up lines. As a result, most consumers access the Internet through ILEC-provided dial-up lines.

Many consumers for some time to come must rely on the ILEC platform to satisfy both their local calling and Internet access needs. If these consumers are to receive the benefits of competition, it will be necessary to open the ILEC network by enforcing, and even broadening, the current unbundling and pricing rules.

This Report provides an updated assessment of the development of post-Act competition and the near term prospects for further facilities-based competition from firms using alternative technology platforms. This assessment of the potential for cross-platform competition in local telecommunications begins in Section II by reviewing the characteristics of competition among technology platforms. Section III defines various local service and geographic markets. Section IV provides a review of the current state of competition in these markets. Sections V through VII discuss the technology and economics of the alternative platforms: cable, wireless and fiber rings. Section VIII analyzes broadband deployment. Despite ILEC claims, broadband competition is limited. This section also discusses the potential for intramodal competition through CLECs using ILEC network elements to provide voice services over DSL.

The finding of these sections is that none of the platforms provides sufficient competition to limit the exercise of market power by the incumbents. At least for the near future, the markets will remain highly concentrated with, at best, an oligopoly structure that leaves consumers with limited choice. Section IX discusses the inadequacy of an oligopoly structure to bring the full benefits of competition to consumers.

The policy consequences of these conclusions are the subject of the remainder of the paper. Section X explains why unbundled network elements ("UNEs") are necessary to provide consumers with some of the benefits of competition. Unbundled loops, switching, transport and UNE platform will be necessary if CLEC and interexchange carrier ("IXC") competitors are to efficiently serve their customers. The importance of access to elements of the ILEC network to serve broadband will also be noted.

Finally, Section XI explains why unbundling will not discourage efficient deployment of either ILEC or CLEC platforms. Competitors would prefer not to be dependent on ILECs. They will build competitive facilities as market demand and economics of facilities construction allow. ILECs will also build the facilities needed to serve their customers and compete where viable competitors enter. Total Element Long Run Incremental Cost ("TELRIC") pricing adequately compensates ILECs for the risk inherent in building facilities.

II. Competition and Monopoly in Telecommunications

The first step in this analysis is to specify the characteristics of competition and monopoly and to relate those theoretical concepts to current

telecommunications markets. The fundamental characteristic of competition is the ability of consumers to choose among alternative suppliers. Given this ability, each competitor has an incentive to price at reasonable levels, to provide quality service, and to deploy new technology as innovation proceeds. A firm with market power, in contrast, is able to restrict output, to otherwise limit the options available to consumers, or to prevent innovative uses of its services because consumers have a limited choice of suppliers.

The textbook economics model of competition generally assumes that technology is known and that all actual or potential competitors have access to it and can enter on a relatively modest scale.⁶ Any attempts by one competitor to raise prices above cost or restrict options available to consumers will be quickly thwarted by other (actual and potential) competitors.

The textbook competition model does not apply to local telecommunications markets. Competitors cannot economically enter local markets using the same copper loop technology currently deployed by the incumbents. While the technology is known and widely available, substantial economies of scale prohibit entrants from using the technology to serve consumers.⁷

In areas with extremely high teledensities firms deploying fiber ring technology can overcome the economies enjoyed by the incumbents. However, this alternative technology platform exhibits high fixed costs per customer. These high fixed costs limit the applicability of fiber ring technology to large

⁶ See, e.g., Hal R. Varian, *Microeconomic Analysis*, 3rd ed., Norton, New York 1992, pp. 215-221.

business customers, or in some cases, multi-unit residential dwellings, in core urban areas.

If there is to be widespread local competition for the mass market, the competitors must use other technologies. Two potential mass market technologies are considered here: cable telephony and wireless. In both cases, existing competitors are serving related markets with technology that can be adapted to serve local telephone markets. Having built networks that are providing profitable services – cable television or mobile communications – these competitors enjoy potential economies of scope that may allow them to overcome the economies of scale enjoyed by the incumbents. However, as shown below, such competition is far from imminent.

The development of the Internet and the rise of broadband markets may provide another potential platform for at least partial local competition. Competitors using the Internet Protocol (“IP”) may be able to compete with the narrow-band offerings of the ILECs by deploying voice service over the ILEC DSL services. The consumer will still have to, directly or indirectly, purchase a local line from the ILEC. However, an independent DSL provider working with an Internet service provider (“ISP”) could supply the consumer with access to long distance services and vertical and ancillary services such as voice mail and the custom calling features often purchased by local subscribers.

⁷ ILEC economies of scale are discussed below in Section VII.

The task of the remainder of this report is to explore the ability of the alternative technology platforms to bring competition to local telephone markets. Those markets are described in the next Section.

III. Service and Geographic Markets

Markets that the Commission has previously identified in the *LEC Classification Order* and in various merger proceedings are a useful starting point for this analysis.⁸ On the product market side, The Commission has properly placed residential and small business services in the same local services market and placed larger businesses in a separate market. Large businesses typically require a different set of services than residential and small business customers. The incumbents provide a number of services within these markets. In addition to the traditional local switched service purchased by households and small businesses, large businesses purchase alternative forms of dedicated access such as high capacity T1, and higher capacity synchronous optical network ("SONET") services.

The development of the Internet has led to demand for broadband transport services, typically supplied by the incumbent cable or telephone operator but provided to retail consumers by ISPs. Broadband services

⁸ *Regulatory Treatment of LEC Provisioning of Interexchange Services Originating in the LEC's Local Exchange Area*, 12 FCC Rcd. 15756 (1997) ("LEC Classification Order") at para. 26 (the 1992 Department of Justice and Federal Trade Commission Merger Guidelines provide the proper analytical framework for defining relevant markets in order to assess market power).

constitute a separate economic market that is of interest in this analysis as well.⁹

This point is discussed further in Section VIII below.

The geographic dimension of the market is also important. Consumers require service at their fixed locations. The availability of a competitive alternative in an adjacent community is not a substitute for the ILEC service provided at the consumer's residence. Therefore the geographic scope of local markets can be quite narrow. For example, the Commission has found that each point-to point market may constitute a separate geographic market.¹⁰

Even within a metropolitan area, there may be separate geographic markets. Some large businesses will have no choice of suppliers while others, for example those along a particular street where CLECs have laid fiber, may have several choices. Defining a metropolitan market will not be useful in answering the question of whether market power can be exercised. The CLEC competitors serving some buildings in the city center have no effect on the ability of the ILEC to exercise market power even in adjacent neighborhoods..

Some customers may require service at several locations within a metropolitan area. For example, some large businesses require local networks that link separate locations together. Serving these customers efficiently requires a geographically diverse local network. Thus, even where a competitor has loop facilities to serve one or more of such a customer's locations, that competitor is

⁹ *In the Matter of Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee*, CS Docket No 00-30, Memorandum Opinion and Order, FCC 01-12, Released January 22, 2001 ("AOL/Time Warner Merger Order"), para. 56.

¹⁰ *Ibid.*, para 74.

not necessarily in a position to supply the customer's full local telecommunications needs with its own facilities. Such a competitor cannot adequately compete for the business of such a customer unless UNEs are available at competitive prices.

In U.S. Department of Justice Merger Guidelines terms, a firm with a monopoly over large portions of a metropolitan area can raise and maintain prices for some time even though other firms may operate in some portions of the same metropolitan area.¹¹ The dominant firm may be able to raise and maintain prices paid by customers that require connections throughout the area.

IV. Current Competition Metrics

This Section analyzes the level of current competition and compares the development of local telephone competition with the evolution of long distance competition. The conclusion is that local competition is still limited, and progressing much more slowly than did long distance competition.

A. Market Share Analysis

According to the FCC, the CLEC share of the local telephone business grew to 9 percent by mid-2000.¹² However, this share is composed of both "CLEC-owned" lines and lines acquired from ILECs (resale or UNE lines).¹³

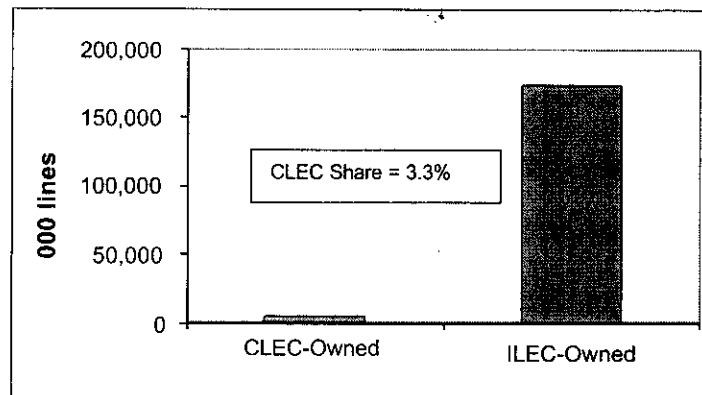
¹¹ "Horizontal Merger Guidelines," U.S. Department of Justice and the Federal Trade Commission, issued April 2, 1992 and revised April 8, 1997.

¹² FCC, "Local Telephone Competition: Status as of June 30, 2001," Industry Analysis Division, Common Carrier Bureau, released February 2002 ("Local Competition Report"), Table 1.

¹³ Economists writing on behalf of the ILECs have used the growth of total CLEC lines to argue that competition is robust. See, e.g., Robert W. Crandall, "An Assessment of the Competitive Local Exchange Carriers Five Years After the Passage of the Telecommunications Act," June

Looking only at lines provisioned over their own loop facilities, CLEC market share is only 3.3 percent, a moderate increase from the 2.9 percent share they had at the end of 2000.¹⁴ See Figure IV.1.

Figure IV.1
CLEC/ILEC Owned Lines



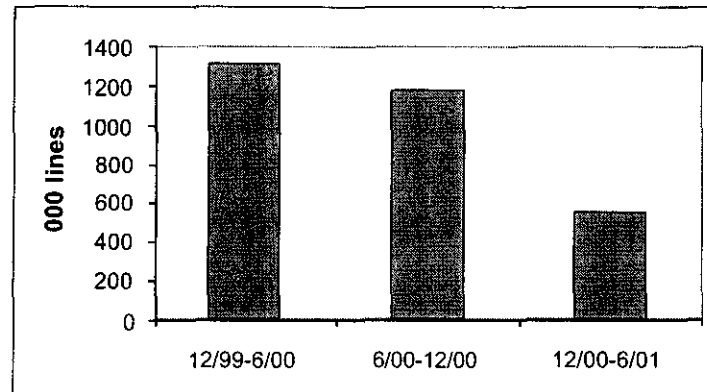
The growth trend for CLEC lines is also of interest. Recent FCC statistics show that local competition is growing but at a decelerating rate. As shown in Figure IV.2, CLECs added 3.4 million lines in the first half of 2000, 3.3 million lines in the second half of 2000, and only 2.4 million lines in the first half of

2001 ("Crandall"), p. 4. The problem is that the most robust growth in lines is coming from the UNEs that their clients want to eliminate.

¹⁴ *Ibid.* Data for the FCC's Local Competition Report are collected through a semi-annual survey. The results for mid-year 2001 were released in February 2002. The FCC reports 5.8 million CLEC owned lines as of June 2001. The total number of lines in the market was 192 million, resulting in only a 3.0 percent share for competitors owning their own "last mile" facilities. See Local Competition Report, table 3 and 4. There is a bias in the FCC's survey that may lead to an understatement of both ILEC and CLEC lines. A firm is required to respond only if it has 10,000 or more lines in a state. However, it is difficult to determine the direction of the bias. The FCC notes that, "... the reporting ILECs account for about 98% of all ILEC lines." [fn. 5 at p. 2] The question then is whether CLEC lines are under reported to a greater extent. It seems likely that the survey responses include most of the CLEC facilities lines. Larger CLECs are more likely to own facilities connecting end users. Constructing facilities to connect end-users is a capital intensive business and the larger CLECs are more likely to be doing it. Moreover, the FCC notes that, "... 24 CLEC reports were from carriers that had fewer than 10,000 lines in a particular state and were thus voluntary." [fn. 6 at p. 3] The Commission also suggests that some CLECs may have reported lines as being owned even though they did not provide the "last mile." [fn. 3 at pp. 1-2]

2001.¹⁵ The second half of 2001 data are not available. However, given the financial problems of the CLECs in this period (discussed in Section VII.D below), this deceleration in growth likely continued.

Figure IV.2
CLEC-Owned Line Growth



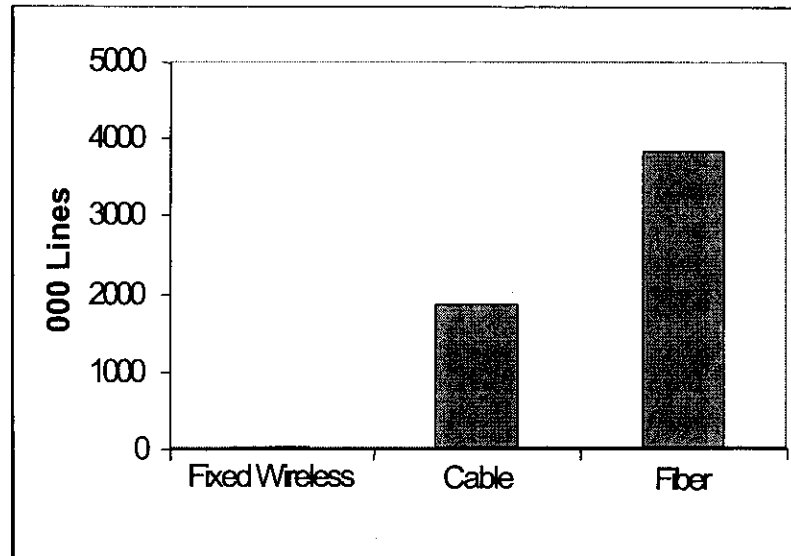
Most CLEC-owned facilities serve larger businesses. As Figure IV.3 shows, only one third of the CLEC-owned lines are provided by cable companies.¹⁶ The bulk of the remaining owned-facilities lines are undoubtedly provided to large business customers over the fiber ring platform.¹⁷

¹⁵ Derived from Local Competition Report, Table 1.

¹⁶ See, Local Competition Report, Table 5.

¹⁷ As discussed in Section VI.B, there are undoubtedly some customers that have replaced their local fixed lines with mobile service. However, the numbers are small due to the inherent limitations of wireless service. Moreover, wireless capacity is simply inadequate to support significant traffic that is currently carried on fixed networks.

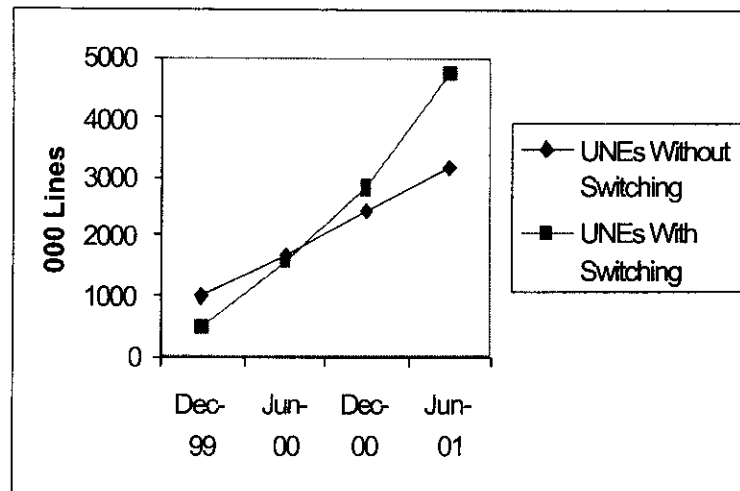
Figure IV.3
CLEC-owned Lines by Type



There is one category of lines that is showing impressive growth. As shown in Figure IV.4, UNEs with switching, which represent the UNE platform ("UNE-P"), increased by 68 percent from December 2000 to June 2001, while stand-alone UNE loops increased by only 30 percent. This likely reflects the successful introduction of UNE-P competition in Texas and New York.¹⁸

¹⁸ Local Competition Report, Table 4.

Figure IV.4
UNE Line Growth



Of course, market share is not the only metric on which the presence of competition can be judged. The competitive significance of the CLECs can also be illustrated by looking at the capability of their networks to serve additional customers. This metric is discussed in the sections dealing with the cable, wireless and fiber loop platforms below. The basic conclusion that the extent of local competition is limited does not change.

B. Comparison to the Evolution of Long distance Competition

The growth of local competition might also be compared to the way competition developed in the long distance industry. As noted above, six years after passage of the 1996 Act, competitors have about three percent of the lines. Long distance competition was much greater six years after competition in the long distance market began.

It is difficult to date the commencement of long distance competition. Toll service competition began in approximately 1978 with the Execunet Decisions,¹⁹ but long distance competitors were not put on an equal footing with AT&T until equal access conversions began in 1984. Nevertheless, by the end of 1984, six years after the Execunet II Decision, and at the very beginning of the equal access conversion process, AT&T had lost nearly 20 percent of the toll market based on minutes.²⁰

Competitors made rapid gains after equal access conversions began in earnest. By 1990, six years after Divestiture, competitors had captured about 37 percent of the toll market based on minutes and 25 percent based on lines.²¹ These results are shown in Table IV.1.

*Table IV.1
Local Versus Long Distance Competition*

IXCs -- Execunet plus six years	n/a	20%
IXCs -- Equal Access plus six years	25%	37%
CLECs -- 96 Act plus six years	3.3%	n/a

Another way to gauge the relative extent of competition is by observing pricing performance. Inflation-adjusted long distance rates have fallen by approximately 80 percent since 1983, the year prior to Divestiture. ILEC rates

¹⁹ *MCI v. FCC*, 561 F.2d 365 (D.C. Cir. 1977) ("*Execunet I*") and *MCI v. FCC*, 580 F.2d 590 (D.C. Cir. 1978) ("*Execunet II*").

²⁰ See, FCC, "Long Distance Market Shares Fourth Quarter 1998", Industry Analysis Division, Common Carrier Bureau, March 1999 ("*IXC Market Share Report*"), Table 1.1, pp. 1-2, and Appendix 1, Chart A1.1, p. 29.

²¹ *Ibid.*, Table 2.2.

are essentially unchanged over the same period.²² The cost of electronic components, including switching and multiplexing equipment, all significant components of ILEC networks, have plummeted since 1983. However, consumers of ILEC services have not shared in the benefits of those cost reductions.

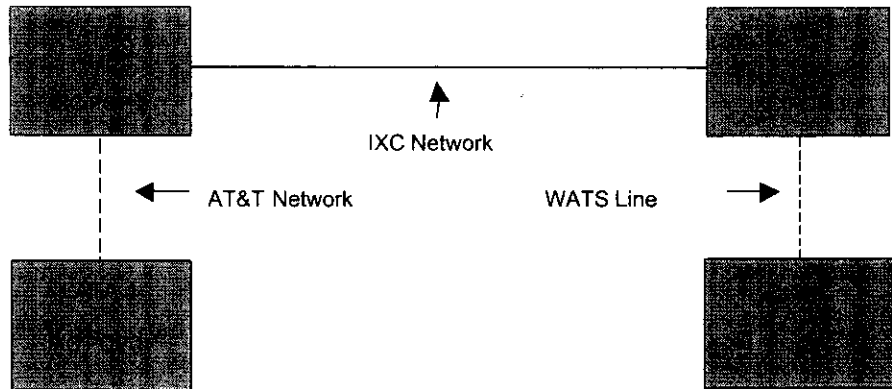
It is important to note that long distance competitors were able to grow rapidly in large part due to the Commission's resale policies. Competitors were able, over AT&T's objections, to "fill out" their networks by reselling AT&T private-line or wide area telecommunications services ("WATS").

As shown in Figure IV.5, AT&T's IXC competitors could originate traffic from off-network locations using AT&T private-lines and offer ubiquitous terminations through WATS resale while their own networks were being completed. For example, an IXC could establish a point of presence ("POP") in local access transport area ("LATA") 1 and originate calls from its customers using an AT&T private-line to carry the call to LATA 2 where the IXC had already built transmission facilities. If the call was destined for LATA 4, where the IXC had no network, and had not yet established a POP, the call could be completed over an AT&T WATS line. In this way the IXC could sign up customers in advance of constructing its own facilities, as well as offer customers ubiquitous terminations. In terms of the 1996 Act, the WATS line filled the role of interconnection while the private-line filled the role of a UNE. The result was the

²² See, Declaration of Lee L. Selwyn, In the Matter of Application by Verizon New Jersey, Inc., for Authorization to Provide In-Region, InterLATA Service in New Jersey, CC Docket No. 01-347, February 28, 2002, p. 25.

development of a vigorously competitive long distance market. Today competitors have established POPs in, and built facilities to, virtually all of the 200 plus LATAs in the United States.

*Figure IV.5
IXC Resale*



Even today the degree of competition in the long distance market is enhanced by the fact that smaller carriers are able to extend their networks through buying capacity from, or reselling the services of, the larger carriers. Competition in the long distance market has evolved to the point that the larger competitors willingly sell capacity to smaller carriers, knowing that in the competitive environment they face others will do so if they do not.

C. Conclusion

There is little local competition today. Fiber carriers have made some inroads into the large business market in limited (but important) geographic niches. However, the rate of growth of facilities competition is slowing dramatically. Residential and small business competition is minimal. Moreover,

as discussed below in Section VII.B, there are significant numbers of large business customers that do not and will not have alternatives available. The following sections demonstrate that significant competition from these alternative technology platforms is at least several years away.

V. Cable Telephony

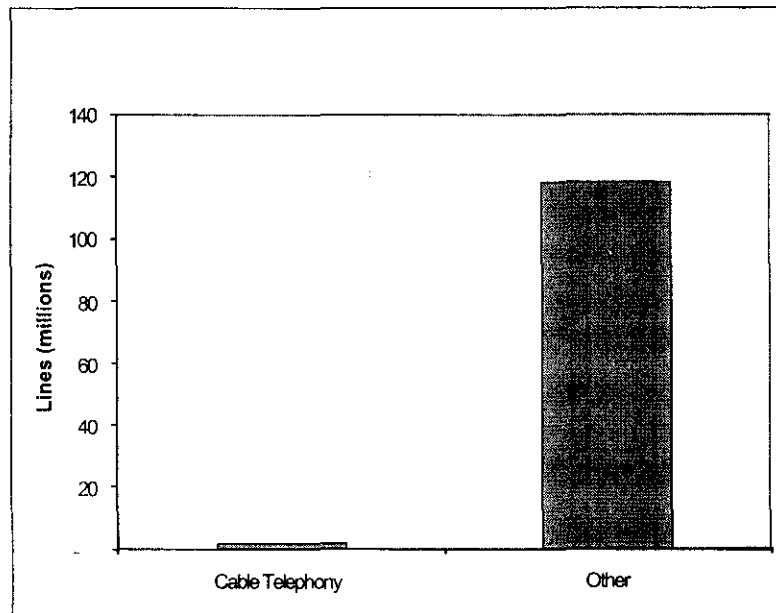
This section examines the current cable telephony landscape and the prospects for the future development of cable telephony service offerings. The discussion of cable telephony is divided into four sections. Cable telephony providers are identified in Section A. While these providers are making significant inroads in some service areas, their national impact is limited. The business considerations that explain the low cable penetration are discussed in Section B. As discussed in Section C, the business calculation could change when IP voice telephony is implemented. However, that technology is not yet ready for commercial deployment. Finally, as discussed in Section D, cable telephony is not an adequate substitute for the local services purchased by larger businesses. In sum, the overall conclusion of this section is that development and implementation of cable telephony technologies does not yet represent a significant competitive threat to ILEC networks.

A. Existing Cable Telephony Providers

In June of 2001, the cable industry served approximately 1.9 million access lines, which yields a penetration of 1.6 percent among residential and

single line business customers.²³ In other words, cable telephony is providing only 1.9 million of the roughly 118 million residential and small business access lines in the U.S. A comparison of cable telephony lines to other local lines is shown in Figure V.1.²⁴ The cable industry provides service to almost no large business customers and its share of the small business and residential local access market is insignificant.

*Figure V.1
Cable Telephony Market Share*



²³ Local Competition Report, Table 5.

²⁴ Estimated residential and single line business lines as of June 2001. These lines are estimated by adjusting year 2000 data from FCC ARMIS Report 43-08 for all reporting local exchange carriers one year forward based on the historical trend for the same data series between 1999 and 2000. This number is then added to the estimated number of cable telephony lines in service to arrive at the total residential and small business line estimate.